

# SunWise monitor

An Update on EPA's SunWise School Program

## A Ray of Light in Ohio

What do you get when you cross a devoted group of doctors, a medical support group, and a ready-to-use educational program called SunWise? In Montgomery County, Ohio, you get RAYS (Raising Awareness About Your Skin), an active volunteer committee that educates students throughout the county about the dangers of ultraviolet radiation. The committee has reached more than 8,500 students in 20 school districts during the past two years.

Consisting of more than 32 dermatologists, plastic surgeons, internists, obstetricians, optometrists, and neurologists, along with 25 other volunteers, the committee

arranges assemblies and classroom presentations in middle and high schools throughout the year. Volunteers use SunWise lesson plans and a captivating slide presentation to teach students about the early signs of skin cancer and what risky behaviors to avoid. In addition, volunteers provide SunWise materials and information to schools and encourage teachers and administra-



tors to join the SunWise program. The committee's efforts have been tremendously successful.

"Not only have we been on the news three or four times, but we've reached an incredible number of students, and we have also discovered several teachers with skin cancer," explained Betty Lacey, a volunteer who took an entire year off work to devote to this cause. "People didn't know what to look for until we showed them pictures."

The pictures she's referring to are a series of clinical photographs of skin cancer—part of the slide presentation developed and used by the committee. Available on the SunWise Web site at [www.epa.gov/sunwise/webpres](http://www.epa.gov/sunwise/webpres), this presentation has been successful in getting students to think twice about sitting in the sun or going to a tanning salon before a wedding or a prom, and it stimulates peer pressure to keep each other safe. "The realistic shots of skin cancer are extremely effective," said Lacey. "Students are usually surprised by the gruesome consequences of too much sun."



## American Cancer Society Embraces Community-Based Program

Five communities across the country are participating in an exciting new American Cancer Society (ACS) program designed to increase awareness about skin cancer and sun-safety techniques. The new initiative engages a multi-faceted approach that targets daycare centers, schools, primary care providers, beach and pool facilities, as well as the media.

Although they do not have a formal partnership with EPA, Mary O'Connell of ACS said that the new community programs will focus on actively promoting SunWise. "If schools do not currently have a sun-protection program, we are encouraging them to contact EPA and join SunWise. EPA spent a lot of time developing this program, and we think it's a great resource," O'Connell said.

In addition to asking teachers to devote at least two classroom sessions to sun safety education, ACS is asking schools to examine their sun awareness policies. For example, ACS is looking at whether schools offer shade provision during recess and whether or not children are required to wear hats and apply sunscreen when outside. According to O'Connell, this repre-

sents a shift from previous programs, "It used to be that the responsibility for sun safety fell to the individual; however, we're attempting to integrate policy into the equation," she said.

At pools and beaches, the new ACS program offers sun-safety training for staff members and lifeguards. "Because they are visible to patrons, it's important for lifeguards to act as role models and exhibit responsible sun-safety behaviors," O'Connell said. In addition, ACS asks water-safety instructors to remind their students to "Slip! Slop! Slap! Wrap!" at the end of each lesson. This slogan, which means "Slip on a shirt, Slop on sunscreen, Slap on a hat, and Wrap on sunglasses," was adapted from a campaign successfully used for many years by the Australian Cancer Society.

Primary care physicians can participate in the program by distributing patient education materials in their waiting rooms, engaging their patients in discussions about sun safety, and, when applicable, tagging the charts of patients who are at high risk for sun-related illness.

According to O'Connell, ACS is optimistic about the success of this new initiative and is currently evaluating its first batch of field tests. Results from these tests will be reported to EPA by the end of the summer. For more information about ACS and its sun-safe communities programs, visit its Web site at <[www.cancer.org](http://www.cancer.org)>. ☉



### A Ray of Light...

<Continued from page 1>

The program got its start in 1999 when a group of dermatologists from the Ohio Medical Association passed a resolution to teach students throughout the state about the hazards of the sun and tanning salons. Volunteers from the Montgomery County Medical Alliance and its auxiliary support group decided to take action on the resolution.

When the committee read about the SunWise program in a newspaper article and began using SunWise materials,

it began to have success in attracting schools to the idea. "EPA's program was definitely the springboard for our program," said Lacey. "Their ready-to-use materials made a huge difference. We are anxiously awaiting new SunWise materials to incorporate into our program."

For more information about RAYS, send an e-mail to [RAYSTASKFORCE@aol.com](mailto:RAYSTASKFORCE@aol.com). ☉

# In the SunWise Spotlight...

## SunWise Students Want to Know

Some say curiosity killed the cat, but, as a group of Illinois students recently discovered, asking the right questions can also save lives. Debbie Brennan, the learning

based on SunWise materials that fit the Illinois state learning standards, incorporating language, fine arts, science, and math.

For many of their activities, the students conduct both group and individual research and then find creative ways to share what they learn. One part of their research effort was to contact the American Cancer Society, which sent them information, bookmarks, and stickers related to sun safety. Brennan has also forged relationships with a local oncologist and a Chicago-based meteorologist, both of whom are available to answer students' questions.

To share what they learned last year, the students created flyers on sun safety and distributed them to local youth sports teams. The students also decorated and gave away hats and bandanas with UV-sensitive paint and performed experiments by applying sun screen to necklaces they made from UV-sensitive beads. As part of a long-term activity, the students monitor and chart daily local UV intensity. The students also share their information by writing



articles for the school newsletter, posting articles and notices on a school bulletin board, and posting information on their Web site <[www.ccsd146.k12.il.us/central/projects.html](http://www.ccsd146.k12.il.us/central/projects.html)>.

"My students are very concerned about their world," Brennan said. "SunWise is such a great program because it stirred their creativity and interest, and made them realize they can have an impact." ☀

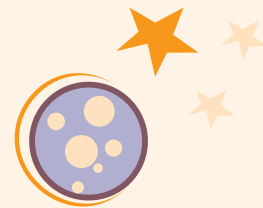
coordinator at Central Middle School in Tinley Park, Illinois, works with the top 5 percent of the seventh and eighth grade students as part of the school's gifted program. Brennan practices "inquiry learning," a loose system that allows students to ask questions about a topic of their choice and conduct activities to answer them.

"A few years ago in May, a group of my students noticed some high school kids lined up outside a tanning salon in preparation for their prom," Brennan said. "I overheard them complaining that tanning causes skin cancer, and I asked them how they knew for sure." To find the answer, the students began a research project on the effects of exposure to ultraviolet (UV) radiation. Not long after that, Brennan discovered EPA's SunWise Web site. She began working with EPA to create activities



### For more information:

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# Ozone

## —friend or foe?



Due in large part to the publicity surrounding holes in the ozone layer, most people are familiar with stratospheric ozone—the kind that protects humans, plants, and animals from the harmful effects of ultraviolet (UV) radiation. But did you know that ozone exists at ground level? More commonly referred to as smog, ground-level ozone is often seen in the skyline of major cities. These two types of ozone affect the environment differently, and both are worth a closer look.

Ozone:  
Good Up High,  
Bad Nearby

### The Good

Ozone forms in the atmosphere when three atoms of oxygen are combined ( $O_3$ ). Ozone located in the stratosphere—about 15 to 30 kilometers above the earth's surface—protects the environment and its inhabitants from UV radiation that can cause health problems, including skin cancer, eye damage, and suppression of the immune system, as well as damage to crops and ecosystems. To maintain a consistent protective layer for Earth, stratospheric ozone is naturally created and destroyed at a constant rate, but human-made substances, including chlorofluorocarbons (CFCs), interfere with this process. CFCs, methyl bromide, and other substances accelerate and aggravate ozone depletion in the stratosphere. This causes “holes” in the ozone layer—areas where ozone thickness has decreased significantly. Reduced ozone layer thickness means less protection from UV rays and increased risks to human health and the environment. International cooperation has succeeded in reducing the production and use of CFCs and other ozone-depleting substances in certain areas of the world, but these substances persist in the atmosphere and will continue to disrupt the delicate balance of the protective ozone layer for years to come.



- One chlorine or bromine molecule can destroy 100,000 ozone molecules, causing ozone to disappear much faster than nature can replace it.
- Out of 10 million air molecules, about 2 million are normal oxygen, while only 3 are ozone.

## The Bad

**G**round-level ozone is a major component of air pollution. It is created when oxides of nitrogen (NOx) and volatile organic compounds (VOCs)—byproducts of vehicle exhaust, industrial emissions, and chemical solvents—chemically react in the presence of strong sunlight and warm weather conditions. Exposure to ozone pollution can cause a range of health problems, including chest pains, coughing, throat irritation, and congestion, and it can worsen bronchitis, emphysema, heart disease, and asthma. It can also damage plants and trees and reduce crop production. Decreasing NOx and VOC emissions from power plants and other facilities, and automobile exhaust are two ways of combating the creation of polluting ozone.

## The Effects on Climate

**H**ardly a day goes by without an article or news feature on global warming and climate change appearing in the media. You may be wondering, therefore, whether there is a link between ozone depletion and climate change.

The answer is yes, and in more ways than one. First, ozone-depleting substances are greenhouse gases. They comprise only a small portion of total greenhouse gases produced worldwide, but they still contribute to global climate change. And substitutes for ozone-depleting substances, while helping to protect the ozone layer, are also potent greenhouse gases.

Second, climate change may accelerate ozone depletion, which worsens when temperatures in the stratosphere become colder. Global warming is caused by increases in greenhouse gases and essentially robs the stratosphere of warmth by trapping heat below it. This creates a colder stratosphere and increased ozone depletion, particularly in colder latitudes, such as the North Pole and Arctic Circle. This occurrence could have major consequences in the near future. Just as the ozone layer is expected to begin recovering from worldwide reductions in CFC production and use, higher global temperatures may increase ozone depletion, canceling out the gains made up to this point. As Jason Samenow, a climate scientist in EPA's Office of Air and Radiation states, "These issues should no longer be considered in isolation given the interconnectedness of our changing atmosphere." 🌀







## Kid's Korner

In May 2000, Linda Rutsch of EPA's SunWise Program gave a presentation on sun safety to first graders at Georgian Forest Elementary School in Silver Spring, Maryland. In addition, she spoke to other students at the school during two assemblies. The school also incorporated SunWise activities into their annual field day in June 2000, including a SunWise relay, UV frisbee activity, shadow chalk drawing, and UV meter and UV bead activity. To make the day even more exciting, it was covered by CNN!

The following are excerpts from some of the letters the students sent to Linda in appreciation for her SunWise savvy.

thank you for coming to our school...I learned that you can get sun barn in cloudy days.

Thank you for coming in our classroom to teach us about sun safety. You are a good teacher. I learned that you have to put sunglasses.

Thank you for showing how to take care of our body by puting sunscreen and sunglasses too.

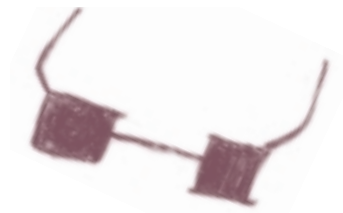
Thank you for coming. I will use sunscreen. I will wear a hat.

I learned that even on clow days you can get sunburn, and anamals can get sunburn.



I learned hippos make thier own sunscreen. I also learned if your shadow is smaller than you play in the shade.

I learn a lot a lot of thing from you. I learn we have to put sunscreen before we go outside, we have to put are clothes, wear sunglasses to protect are eye.



(Artwork courtesy of students at Georgian Forest Elementary School, Silver Spring, Maryland.)

## UV Index Comes to Town

A new feature on the SunWise Web site can help protect you from overexposure to the sun, not just in summer, but all year long. Users can now search for the Ultraviolet (UV) Index by ZIP code at [www.epa.gov/sunwise/uvindex.html](http://www.epa.gov/sunwise/uvindex.html) and view the daily UV Index for their local area. "Prior to this, the National Weather Service (NWS) only issued a list of daily UV Indexes for 58 cities, and some major parts of the country were excluded. Now users can get the UV Index at their exact location, which is much more beneficial to them," said Craig Long of NWS.

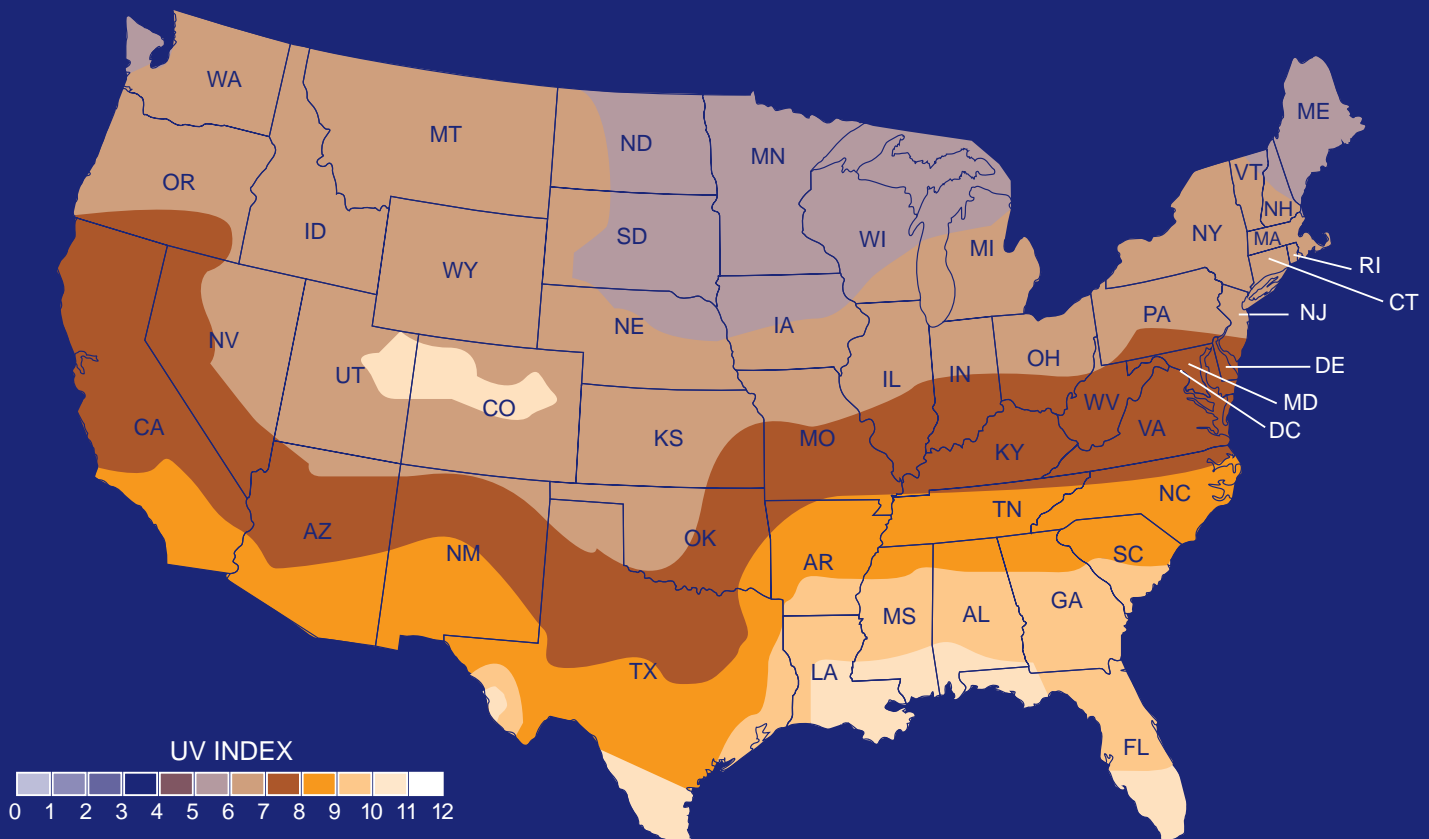
The UV Index was developed by NWS and EPA to predict UV radiation levels. Overexposure to the sun's UV

rays can cause sunburn and long-term effects such as skin cancer and cataracts. The UV Index reports daily UV forecasts on a 1 to 10+ scale that provides the expected risk of overexposure to the sun, with 0 indicating minimal risk and 10 indicating very high risk. It provides important information to help people plan outdoor activities in ways that prevent overexposure to the sun's rays.

As a future project, the NWS and EPA are considering increasing the forecasted number of days, so users can plan outdoor activities several days in advance. For more information, contact Craig Long of NWS at 301 763-8071, ext. 7557. ☺

### UV Index Forecast for a Typical Day

*\*Valid during the solar noon hour\**



## New Tools for Teaching Kids to be SunWise

EPA's new SunWise Tool Kit is here! This collection of fun, developmentally appropriate activities combines education about sun protection and the environment with other aspects of learning. Teachers registered with the SunWise School Program receive a free tool kit with comprehensive, cross-curricular activities that focus on:

- The science behind ultraviolet (UV) radiation and stratospheric ozone
- The health risks of overexposure to UV radiation
- The steps you can take to protect yourself

The tool kit also contains a policy section that shows teachers and students how to encourage sun-safety activities outside of the classroom. These policy materials feature suggestions on sharing SunWise knowledge with the



rest of the school, reaching out to families with sun-safe practices, forming community partnerships, and organizing sun-safe events. Stay tuned, as the tool kit will be available in Spanish within the coming year.

For more information on the SunWise Tool Kit, contact Linda Rutsch at 202 564-2261 or Kristin Kenausis at 202 564-2289. To join the SunWise School Program, please visit the Web site at <[www.epa.gov/sunwise](http://www.epa.gov/sunwise)>. ●



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